



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,421	12/23/2003	Minoru Miyatake	032204	7515
38834	7590	06/15/2006	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			SANTIAGO, MARICELI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/743,421

Applicant(s)

MIYATAKE, MINORU

Examiner

Mariceli Santiago

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/30/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION*****Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7, 9 and 10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 5 and 6 of copending Application No. 10/742,785 (US 2004/0183963). Although the conflicting claims are not identical, they are not patentably distinct from each other as shown below.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

U.S. Application SN 10/743,421	U.S. Application SN 10/742,785
Claim 1 recites an optical element having a plate-like shape, which comprises a light-transmitting resin and minute regions, said minute regions being dispersedly distributed in said light-transmitting resin and having a birefringence different from said light-transmitting resin, wherein at least one of said light-transmitting resin and said minute regions contains at least one luminescent	Claim 1 substantially recites the limitation of an anisotropic scattering color conversion layer (i.e. optical element), wherein the anisotropic scattering color conversion layer comprises a light-transmitting resin, a microregion (i.e., minute region) dispersedly distributed in the light-transmitting resin having birefringence different from that of the light-transmitting resin and at least

<p>material.</p> <p>Claim 2 recites the limitation wherein said at least one luminescent material is a fluorescent material that absorbs any one of ultraviolet light and visible light and emits visible light.</p> <p>Claim 3 recites the limitation wherein said at least one luminescent material is a phosphorescent material that absorbs any one of ultraviolet light and visible light and emits visible phosphorescence.</p>	<p>one light-emitting material (i.e., luminescent material) incorporated in the light-transmitting resin and/or microregion, and the light-transmitting material absorbs light emitted by the solid light-emitting element as excitation light to emit fluorescence or phosphorescence.</p> <p>In regards to the limitation of the optical element having a plate-like shape, a change in shape is generally recognized as being within the level of ordinary skill in the art. <i>In re Dailey</i>, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Thus, it would have been obvious to one having ordinary skill in the art to provide the plate-like shape optical element, since such a modification would have involve a mere change in the shape of a component.</p>
<p>Claim 4 recites the limitation wherein said minute regions are made of any one of a liquid crystal material, a material in glass state that is formed by fixing a liquid crystal phase upon cooling, and a material that is formed by crosslinking and fixing a liquid crystal phase of a liquid crystal monomer upon irradiation of energy rays.</p>	<p>Claim 2 substantially recites the limitation of wherein the microregion is formed by a glass-state material obtained by cooling and fixing a liquid crystal phase or a liquid-crystalline material, or a material obtained by crosslinking and fixing the liquid crystal phase of a polymerizable liquid crystal with energy radiation.</p>
<p>Claim 5 recites the limitation wherein said minute regions are made of a liquid crystal polymer that has a glass transition temperature of 50°C or higher and exhibits a nematic liquid crystal phase at a temperature lower than the glass transition temperature of the light-transmitting resin.</p>	<p>Claim 3 substantially recites the limitation of wherein the microregion is formed by a liquid crystal polymer having a glass transition temperature of not lower than 50°C and shows nematic liquid crystal phase at a temperature lower than the glass transition temperature of the light-transmitting resin.</p>
<p>Claim 6 recites the limitation wherein the following expressions (1)-(3) are established for refractive index difference between said minute regions and said light-transmitting resin:</p> $0.03 \leq \Delta n1 \leq 0.5 \quad (1)$	<p>Claim 4 recites the limitation wherein the difference in refractive index between the microregions and the light-transmitting resin has the following relationships:</p> $0.03 \leq \Delta n1 \leq 0.5 \quad (1)$

<p><math>0 \leq \Delta n_2 \leq 0.03</math> (2)</p> <p><math>0 \leq \Delta n_3 \leq 0.03</math> (3) where,</p> <p><math>\Delta n_1</math>: refractive index difference in an axial direction of the minute regions, along which a maximum refractive index difference occurs,</p> <p><math>\Delta n_2</math>: refractive index difference in an axial direction orthogonal to the axial direction along which the maximum refractive index difference occurs,</p> <p><math>\Delta n_3</math>: refractive index difference in an axial direction orthogonal to the axial direction along which the maximum refractive index difference occurs.</p>	<p><math>0 \leq \Delta n_2 \leq 0.03</math> (2)</p> <p><math>0 \leq \Delta n_3 \leq 0.03</math> (3) where,</p> <p>supposing that the maximum difference in refractive index along the axis of the microregion is <math>\Delta n_1</math> and the differences in refractive index in the direction perpendicular to the axis along which the maximum value is shown are <math>\Delta n_2</math> and <math>\Delta n_3</math>.</p>
<p>Claim 7 recites the limitation a polarized-light-emitting surface light source comprising an optical element having a plate-like shape and a light source that emits light of a wavelength that is capable of exciting a luminescent material contained in said optical element, said optical element comprising a light-transmitting resin and minute regions, said minute regions being dispersedly distributed in said light-transmitting resin and having a birefringence different from said light-transmitting resin, wherein at least one of said light-transmitting resin and said minute regions contains at least one luminescent material.</p>	<p>Claim 1 substantially recites the limitation of a planar light source comprising an anisotropic scattering color conversion layer (i.e. optical element), wherein the anisotropic scattering color conversion layer comprises a light-transmitting resin, a microregion (i.e., minute region) dispersedly distributed in the light-transmitting resin having birefringence different from that of the light-transmitting resin and at least one light-emitting material (i.e., luminescent material) incorporated in the light-transmitting resin and/or microregion, and the light-transmitting material absorbs light emitted by the solid light-emitting element as excitation light to emit fluorescence or phosphorescence.</p> <p>In regards to the limitation of the optical element having a plate-like shape, a change in shape is generally recognized as being within the level of ordinary skill in the art. <i>In re Dailey</i>, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Thus, it would have been obvious to one having ordinary skill in the art to provide the plate-like shape optical element, since such a modification would have involve a mere change in the shape of a component.</p>

Claim 9 recites the limitation of comprising an electroluminescence element.	Claim 5 substantially recites the limitation of comprising an electroluminescence element.
Claim 10 recites the limitation of a display unit comprising the polarized-light-emitting surface light source as claimed.	Claim 6 substantially recites the limitation of a display unit comprising the polarized-light-emitting surface light source as claimed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 6, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyatake et al. (US 2002/0008807) in view of Larrabee et al. (US 3,960,753).

Regarding claims 1, 2 and 4, Miyatake discloses an optical element having a plate-like shape, which comprises a light-transmitting resin and minute regions, the minute regions being dispersedly distributed in the light-transmitting resin and having a birefringence different from the light-transmitting resin (Paragraph [0005]).

Miyatake fails to disclose the limitation of at least one of the light-transmitting resin and the minute regions contains at least one luminescent material. Miyatake acknowledges the use of conventional nematic liquid crystal material for the minute regions. Larrabee discloses a nematic liquid crystal material further provided with a fluorescent material in order to provide the high visual contrast desired in liquid crystal displays and optical devices. Accordingly, one skilled in the art would reasonable contemplate the selection of known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have

Art Unit: 2879

incorporate liquid crystal having fluorescent material as disclosed by Larrabee in the optical element of Miyatake to provide the high visual contrast desired in liquid crystal displays and optical devices, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claim 6, Miyatake discloses an optical element wherein the following expressions (1)-(3) are established for refractive index difference between said minute regions and said light-transmitting resin (Paragraph [0005]):

$$0.03 \leq \Delta n_1 \leq 0.5 \quad (1)$$

$$0 \leq \Delta n_2 \leq 0.03 \quad (2)$$

$$0 \leq \Delta n_3 \leq 0.03 \quad (3) \text{ where,}$$

$\Delta n_1$ : refractive index difference in an axial direction of the minute regions, along which a maximum refractive index difference occurs,

$\Delta n_2$ : refractive index difference in an axial direction orthogonal to the axial direction along which the maximum refractive index difference occurs,

$\Delta n_3$ : refractive index difference in an axial direction orthogonal to the axial direction along which the maximum refractive index difference occurs.

Regarding claim 7, Miyatake discloses a polarized-light-emitting surface light source comprising an optical element having a plate-like shape and a light source, the optical element comprising a light-transmitting resin and minute regions, the minute regions being dispersedly distributed in the light-transmitting resin and having a birefringence different from the light-transmitting resin (Paragraph [0005]).

Miyatake fails to disclose the limitation of at least one of the light-transmitting resin and the minute regions contains at least one luminescent material. Miyatake acknowledges the use of conventional nematic liquid crystal material for the minute regions. Larrabee discloses a nematic liquid crystal material further provided with a fluorescent material in order to provide the high visual contrast desired in liquid crystal displays and optical devices. Accordingly, one

skilled in the art would reasonable contemplate the selection of known material on the basis of its suitability for the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have incorporate liquid crystal having fluorescent material as disclosed by Larrabee in the optical element of Miyatake to provide the high visual contrast desired in liquid crystal displays and optical devices, since the selection of known materials for a known purpose is within the skill of the art.

Regarding claim 9, Miyatake discloses a polarized-light-emitting surface light source comprising an electroluminescence element (Paragraph [0016]).

Regarding claim 10, Miyatake discloses a display unit comprising the polarized-light-emitting surface light source as claimed (Paragraph [0001]).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyatake et al. (US 2002/0008807) in view of Larrabee et al. (US 3,960,753), and further in view of Allen et al. (US 6,111,696).

Regarding claim 8, the references Miyatake-Larrabee are silent in regards to the limitation of further comprising a light guide member for guiding light emitted from the light source to the optical element, the light guide member being made of a light passing material. In the same field of endeavor, Allen discloses a polarized-light-emitting surface light source (figs. 13A-13B) further comprising a light guide member for guiding light emitted from the light source to the optical element, the light guide member being made of a light passing material in order to direct light in a desired predetermined direction. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the light guide



Art Unit: 2879

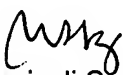
member disclosed by Allen in the polarized-light-emitting surface light source of Miyatake-Larrabee in order to provide direct light in a desired predetermined direction.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197. (toll-free).

  
Mariceli Santiago  
Primary Examiner  
Art Unit 2879